

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-12 (cancelled)

Claim 13 (new): A novel microorganism belong to genus Geobacillus, which has an ability to produce a solubilizing enzyme for solubilizing organic solid matter such as organic sludge or biological sludge.

Claim 14 (new): A novel microorganism belonging to genus Geobacillus, which has an ability to produce a solubilizing enzyme for solubilizing organic solid matter such as organic sludge or biological sludge, said microorganism having the following mycological characteristics:

- (a) morphological characteristics, wherein the shape and size of the microorganism is rod-shaped with a width of 0.7 to 0.8 μm and a length of 2.0 to 4.0 μm , wherein motility of the microorganism is present; and wherein a spore is present;
- (b) cultivating characteristics (Nutrient agar plate culture), wherein colony morphology of the microorganism is circular, entirely smooth edge and low convex; wherein the organism has a cream color; and wherein gloss is present;
- (c) physiological characteristics, wherein the microorganism is gram positive; wherein nitrate reduction is negative; wherein indole production is negative; wherein hydrogen sulfide production is negative; wherein the use of citric acid is negative; wherein urease is negative; wherein oxidase is positive; wherein catalase is positive; wherein attitude to oxygen is aerobic; wherein O-F test (glucose) is negative/negative; and wherein production of acid and gas from saccharides is D-glucose: acid positive/gas negative.

Claim 15 (new): A novel microorganism belonging to genus Geobacillus, which has an ability to produce a solubilizing enzyme for solubilizing organic solid matter such as organic sludge or biological sludge, said microorganism having the following mycological characteristics:

- (a) morphological characteristics, wherein the shape and size of the microorganism is rod-shaped with a width of 0.7 to 0.8 μm and a length of 2.0 to 4.0 μm , wherein the motility of the microorganism is present; and wherein a spore is present;
- (b) cultivating characteristics (Nutrient agar plate culture), wherein colony morphology of the microorganism is circular, entirely smooth edge and low convex; wherein the organism has a cream color; and wherein gloss is present;
- (c) physiological characteristics, wherein the microorganism gram is positive; wherein nitrate reduction is negative; wherein indole production is negative; wherein hydrogen sulfide production is negative; wherein the use of citric acid is negative; wherein urease is negative; wherein oxidase is positive; wherein catalase is positive; wherein attitude to oxygen is aerobic; wherein O-F test (glucose) is negative/negative; and wherein production of acid and gas from saccharides is D-glucose: acid positive/gas negative; wherein in a fermentability test, D-glucose is positive, D-fructose is positive, D-mannose is positive, D-sorbitol is negative, inositol is negative, maltose is positive; and trehalose is positive; and wherein other physiological characteristics include β -Galactosidase activity that is negative, arginine dihydrolase activity that is negative, lysine decarboxylase activity that is negative, tryptophan deaminase activity that is negative, acetoin production that is negative, acetoin production that is negative, gelatinase activity that is positive, and ornithine decarboxylase activity that is negative.

Claim 16 (new): The novel microorganism according to claim 13, which is Geobacillus sp. SPT4 (FERM BP-08452) (SEQ ID NO: 1).

Claim 17 (new): The novel microorganism according to claim 13, which is Geobacillus sp. SPT5 (FERM BP-08453) (SEQ ID NO: 2).

Claim 18 (new): The novel microorganism according to claim 13, which is Geobacillus sp. SPT6 (FERM BP-08454) (SEQ ID NO: 3).

Claim 19 (new): The novel microorganism according to claim 13, which is Geobacillus sp. SPT7 (FERM BP-08455) (SEQ ID NO: 4).

Claim 20 (new): A novel microorganism belonging to genus Geobacillus, which has an ability to produce a solubilizing enzyme for solubilizing organic solid matter such as organic sludge or biological sludge and has a base sequence of 16SrRNA gene as described in SEQ ID NO: 1.

Claim 21 (new): A novel microorganism belonging to genus Geobacillus, which has an ability to produce a solubilizing enzyme for solubilizing organic solid matter such as organic sludge or biological sludge and has a base sequence of 16SrRNA gene as described in SEQ ID NO: 2.

Claim 22 (new): A novel microorganism belonging to genus Geobacillus, which has an ability to produce a solubilizing enzyme for solubilizing organic solid matter such as organic sludge or biological sludge and has a base sequence of 16 SrRNA gene as described in SEQ ID NO: 4.

Claim 23 (new): A process for treatment of organic solid matter, in which organic solid matter such as organic sludge or biological sludge is solubilized by at least one novel microorganism according to any one of claims 13-22.

Claim 24 (new): A process for treatment of organic solid matter, in which organic solid matter such as organic sludge or biological sludge is solubilized by a mixture of microorganisms comprising any one of the novel microorganisms according to claims 16, 17 or 18 and the novel microorganism according to claim 19.